
DEPUTY DIRECTIVE**Number:** DD-43**Refer to
Director's Policy:** 08-Freeway System
Management**Effective Date:** 7-1-95**Supersedes:** P&P 89-10**Title:** High Occupancy Vehicle (HOV)
Systems

POLICY

Caltrans uses High Occupancy Vehicle (HOV) systems as an effective traffic management strategy to promote carpooling and bus patronage, improve reliability of travel time, improve air quality, and maximize the efficiency of the freeway system by increasing its people-carrying capacity while reducing congestion and delay.

**DEFINITION/
BACKGROUND**

The Federal Highway Act, Title 23, authorizes the United States Department of Transportation to approve HOV facilities on Federal Aid Systems to increase the capacity for the movement of persons. Section 21655.5 of the California Vehicle Code and Section 149 of the Streets and Highways Code authorize the California Department of Transportation to construct preferential lanes for buses and other HOVs.

RESPONSIBILITIES

The Traffic Operations Program Manager develops, reviews and disseminates policies, guidelines and procedures for HOV systems.

The State and Local Project Development Program Manager develops and reviews geometric design standards, pavement structural section standards and drainage standards for HOV systems; and consults with Traffic Operations prior to approving design exceptions related to HOV systems.


The New Technology and Research Program Manager develops and reviews new technology applications for HOV systems.

The Transportation Planning Program Manager provides statewide direction for long-range state highway system planning leading to the identification of future highway improvements, including HOV system improvements.

District Directors implement HOV policies and procedures and coordinate with local agencies in establishing HOV systems.

APPLICABILITY

All Caltrans employees involved in HOV system activities.



ANDREW POAT
Chief Deputy Director

State of California

Business, Transportation and Housing Agency

M e m o r a n d u m

To: DISTRICT DIRECTORS
Districts 3, 4, 7, 8, 11 and 12

Date: December 11, 1995

File No :

From: DEPARTMENT OF TRANSPORTATION
Traffic Operations


Subject: The Ending of High Occupancy Vehicle (HOV) Lanes

Questions have been raised recently, including some by the Federal Highway Administration (FHWA), concerning the end treatment for HOV lanes. To clarify the issue, Headquarters Traffic Operations has determined that an HOV lane shall end in a continuing lane which enables the HOV traffic to continue without a merge. When a lane end has to occur it shall become the standard to drop the outside mixed flow lane as shown on the attached drawing. This issue was thoroughly discussed by a statewide task force, which included outside agencies such as FHWA, in the preparation of the HOV Guidelines. Although the opinion was expressed that the Guidelines should include instructions for both left and right side merges, the overwhelming belief was that merging the HOV lane is such an exception that including it would mislead the districts into believing that it is an equally desirable option. If an exception is needed, document the reasons and request an approving signature from the appropriate headquarters traffic reviewer.

Frequently, the ending of the HOV lane could be shifted up or downstream to make a right merge more feasible.

Revisions of plans are required for projects in the planning or design stage. For those HOV projects under construction with the HOV lane merging, I request that you review these projects and request contract change orders as needed.

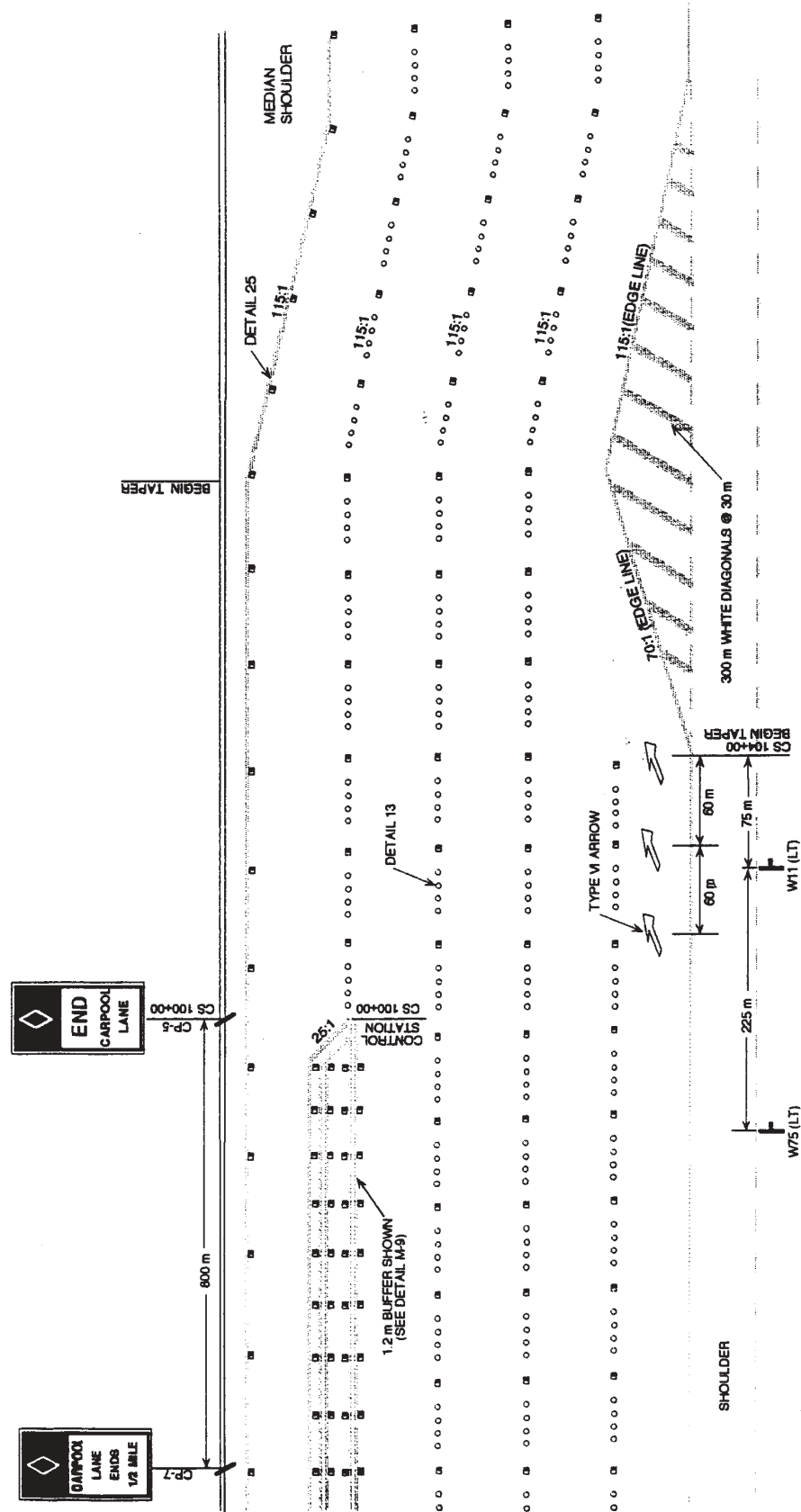
If you have any questions, please call your headquarters traffic reviewer.


JAMES B. BORDEN
Program Manager
Traffic Operations

*Attachment

* The original attachment is included on the subsequent page although superceded by Chapter 5, Detail M-6 of this Guideline, 2003 Edition.

TYPICAL END HOV TREATMENT WITH SIGNING AND PAVEMENT MARKINGS (Similar for Contiguous and Barrier Separated Facilities)



Superseded by Chapter 5,
Detail M-6, 2003 Edition

California Transportation Commission
'G'
General Resolutions

CTC Resolution Index

Updated: October 13, 2000

Resolution	Status	Date Passed	Title/Description
1978-1982			
G-01	Replaced by G-23 as Replaced by G-50	April 21, 1978	Authorization for Department of Transportation (Caltrans) to submit a list of Proposed STIP projects at each April CTC Meeting for the purpose of advertising certain projects prior to the fiscal year in which funds are appropriated, with contract award pending appropriation of funds by the Legislature, and adoption of the STIP. See related Resolutions G-09 and G-16. Resolution G-01 Replaced by G-23 as Replaced by G-50
G-02	Amended by G-95-07 G-96-26 G-97-12 G-98-22	July 28, 1978	Procedure for sale of excess lands / property. Resolution G-02 Amended by Resolution G-95-07 Resolution G-02 Amended by Resolution G-96-26. Resolution G-02 Amended by Resolution G-97-12. Resolution G-2 Amended by Resolution G-98-22
G-03	Original	July 28, 1978	Procedure for lease of excess lands / property for park purposes to local agencies. See related Resolution G-91.
G-04	Original	July 28, 1978	Procedures relating to Resolutions of Necessity to acquire property by eminent domain.
G-05	Replaced by G-94-13, G-96-27 and G-97-06	Aug 10, 1994	Procedure for leasing airspace to private entities. Resolution G-05 Replaced by Resolutions G-94-13, G-96-27 and G-97-06.
G-06	Original	July 28, 1978	Procedure for leasing airspace to public agencies.
G-07	Not Used		No Resolution On File.
G-08	Replaced by G-15	May 19, 1978	Procedure for recycling / rescinding adoption of freeway locations. Resolution G-08 Replaced by Resolution G-15.
G-09	Original	April 21, 1978	Affirmation of California Highway Commission approval of FY 1978-79 construction projects (Partial List) - See Related Resolutions G-01 and G-16.
G-10	Replaced by G-88-21	May 19, 1978	Adoption of toll rate schedule for the Antioch Toll Bridge. Resolution G-10 Replaced by Resolution G-88-21.
G-11	Amended and Superseded by G-94 and Amended by G-00-11	Jun 23, 1978	Authorization for Department of Transportation (Caltrans) to allocate funds for emergency projects. Resolution G-11 Amended and Superseded by G-94.
G-12	Amended and Superseded by G-95-08	Jul 28, 1978	Delegation of authority to Department of Transportation (Caltrans) to adjust project allocations and modify project descriptions. Resolution G-12 Amended by Resolutions G-83-06, G-85-10, G-88-04, G-88-18, G-88-23, and G-90-24, which were subsequently Replaced and Superseded by G-95-08.
G-13	Replaced by G-91-01	Jun 23, 1978	Delegation of authority to Department of Transportation (Caltrans) to sub-allocate right of way funds. Resolution G-13 Replaced by Resolution G-91-01.
G-14	Original	Nov 17, 1978	Procedure for adoption of freeway route locations.
G-15	Replaces G-08	Feb 29, 1980	Procedure for recycling / rescinding adopted freeway locations and policy for conditional retention of adoptions. Resolution G-15 Replaces Resolution G-08.
G-16	Original	Aug 25, 1978	Affirmation of California Highway Commission approval of FY 1978-79 construction projects (balance of projects) See related Resolutions G-01 and G-09.



ADDITIONAL HOV INFORMATION

California Vehicle Code sections relating to HOV lanes:

To view the 2003 California Vehicle Code (CVC), visit the Department of Motor Vehicles (DMV) website: <http://www.dmv.ca.gov/pubs/vctop/vc/vctoc.htm>. Most of the HOV related vehicle code sections summarized below are located in Division 11 of the CVC. Section titles in **BOLD** indicate official title names as shown in the CVC. The section title in regular font was included for clarity in describing the HOV related issue.

Section 21460	<p>Double Lines</p> <p>The purpose of the solid-white single line on the inside of the double yellow lines on buffered HOV lanes is to permit vehicles to legally drive to the left of the double yellow lines as defined in the provisions of this section.</p>
Section 21654	<p>Slow-Moving Vehicles</p> <p>This section requires vehicles, such as those with 3-or-more-axles or vehicles with trailers as defined in Section 22406, to use the farthest right freeway lanes. Therefore, these vehicles cannot use the HOV lanes.</p>
Section 21655	<p>Designated Lanes for Certain Vehicles</p> <p>Allows the Department of Transportation or local authorities to designate specific lanes for vehicles required to drive at reduced speeds. Requires vehicles driving at reduced speeds to use the farthest right lanes.</p>
Section 21655.3	<p>Permanent High-Occupancy Vehicle Lanes</p> <p>After 1/1/87, but before 12/31/87 all permanently designated HOV lanes operating 24 hours a day shall be separated from general use highway lanes by a minimum 4 foot wide buffer.</p>
Section 21655.5	<p>Exclusive- or Preferential- Use lanes for High-Occupancy Vehicles</p> <p>Allows the Department of Transportation and local authorities to designate specific lanes for HOV preferential use upon completion of competent engineering estimates made of the effects of the lanes on safety, congestion, and highway capacity.</p>
Section 21655.5(b)	<p>Mass Transit and Paratransit Vehicles</p> <p>Enactment of SB 236 on January 1, 1998, permits mass transit vehicles to use the HOV lanes without meeting the occupancy requirement.</p> <p>Enactment of AB 2582 on January 1, 2003, permits <u>clearly marked</u> paratransit vehicles to use the HOV lanes without meeting the occupancy requirement. This section also requires that HOV lane-use comply with posted signs designating the minimum occupancy requirement.</p>
Section 21655.6	<p>Approval of Transportation Planning Agency or County Transportation Commission</p> <p>Requires the Department of Transportation to have approval of the county transportation commission prior to establishing new HOV lanes.</p>
Section 21655.7	<p>Use of Highway: Public Mass Transit Guideway</p> <p>Allows for any portion of a highway to be designated for exclusive public mass transit use.</p>
Section 21655.8(a)	<p>Entering or Exiting Preferential-Use Lanes</p> <p>A citation for violation of the provisions of this section, commonly called a buffer violation, carry a minimum fine of \$271.</p>

- Section 21655.9 **HOV Lanes: Use by Ultra – Low Emission Vehicles**
Website for list of vehicles that meet federal requirements and qualify as ultra-low emission vehicles (ULEV) and super ultra low-emission vehicles (SULEV) in Assembly Bill 71, enacted July 1, 2000:
<http://www.arb.ca.gov/msprog/carpool/carpool.htm>
- Section 21714 **Three-Wheeled Vehicles: Operation in HOV Lanes**
Prohibits three-wheeled vehicles from using the HOV lanes.
- Section 22364 **Lane Speed Limits**
Allows the Department of Transportation to post the appropriate speed for designated lanes.
- Section 22406 **Maximum Speed for Designated Vehicles**
By definition in this section, trucks with three or more axles, or vehicles with trailers, are not allowed to use the HOV lanes because they cannot drive the maximum legal speed limit posted on HOV lanes in California. Provisions of Section 21654 (above) then apply.

Definition of Two-Seat Vehicles (used in San Francisco Bay Area only):

Applies to the Interstate 80 HOV lanes and the toll plaza HOV by-pass lanes in the Bay Area requiring 3 or more occupants. Two seat vehicles are exempt from the 3 or more person occupancy requirement where posted. However, they must still have two people in them to use a 3 or more person facility.

State Assemblyman John Burton's legislation, Assembly Bill 210, was implemented on October 1, 1995. The legislation amended Section 30101.8 of the Streets and Highways Code to read, *".....grant the same toll-free passage and reduced-rate passage to class I vehicles designed by the manufacturer to be occupied by no more than two persons, including the driver; if these vehicles are occupied by two persons, including the driver."*

How the \$271 Minimum Fine is Derived

The Judicial Council of California (JCC) sets the fines and maintains the Uniform Bail and Penalty Schedule (UBPS) for traffic violations. In that schedule the fine is \$270 for an occupancy violation per Section 21655.5(b) or a buffer violation per Section 21655.8(a) of the CVC.

The \$270 set by the JCC, a minimum, is comprised of:

- (1) Section 1464 of the Penal Code setting \$170 and
- (2) Section 42001.11 of the CVC setting a \$100 minimum to \$150 maximum for first offense, \$150 minimum to 200 maximum for second offense within 1 year, and \$250 to \$500 for third offense within 2 years.

The additional \$1 assessment is under Section 42006 of the CVC for counties that have night court.

In addition, the counties can assess an additional \$10 for administration, at the discretion of the county's Board of Supervisors, under Section 40508.6 of the CVC. Also, Section 1463.28 of the Penal Code provides for 30 counties to exceed fines scheduled in the UBPS. In the San Francisco Bay Area, the only county that can do this is Contra Costa.

All of the counties that have HOV lanes also have night court, so this is why the posted sign shows \$271 minimum.

Uniform Traffic Penalty Schedule

40310. The Judicial Council shall annually adopt a uniform traffic penalty schedule which shall be applicable to all nonparking infractions specified in this code, unless in a particular case before the court the judge or authorized hearing officer specifies a different penalty. No penalty shall be established for any infraction in an amount, exclusive of any additional penalty levied pursuant to Section 1464 of the Penal Code, in excess of the amount of the maximum fine pursuant to Section 42001 or 42001.5, and penalties shall be set without regard to residence. In case a traffic penalty is not paid within 20 days following mailing of a notice that the penalty has been assessed, a late charge shall be due in the amount of 50 percent of total initial penalty. In establishing a uniform traffic penalty schedule, the Judicial Council shall classify the offenses into four or fewer penalty categories, according to the severity of offenses, so as to permit convenient notice and payment of the scheduled penalty

Amended Ch. 696, Stats. 1992. Effective September 15, 1992.

JUDICIAL COUNCIL OF CALIFORNIA TRAFFIC INFRACTION FIXED PENALTY SCHEDULE (Vehicle Code Sections)

<u>Section</u>	<u>Offense</u>	<u>Base Fine</u>	<u>Added Penalty</u>	<u>Total Bail</u>	<u>Bail Category</u>	<u>Point Count</u>
21655.5(b)	Improper Use of Preferential Lanes	\$ 100	+ 170 =	\$ 270	4a	0
21655.8	Driving Over Double Lines of Preferential Lanes	\$ 100	+ 170 =	\$ 270	4a	1

2003 Vehicle Code General Provisions and Divisions

Exclusive or Preferential Use Lanes

42001.11. Every person convicted of an infraction for a violation of Section 21655.5 or 21655.8 shall be punished as follows:

- (a) For a first conviction, a fine of not less than one hundred dollars (\$100), nor more than one hundred fifty dollars (\$150).
- (b) For a second conviction within a period of one year, a fine of not less than one hundred fifty dollars (\$150), nor more than two hundred dollars (\$200).
- (c) For a third or any subsequent conviction within a period of two years, a fine of not less than two hundred fifty dollars (\$250), nor more than five hundred dollars (\$500).

Added Ch. 1054, Stats. 1988. Effective January 1, 1989.

Title 23, United States Code (U.S.C.), Highways**Sec. 102. - Program efficiencies****(a) HOV Passenger Requirements. -**

(1) In general. - A State transportation department shall establish the occupancy requirements of vehicles operating in high occupancy vehicle lanes; except that no fewer than 2 occupants per vehicle may be required and, subject to section 163 of the Surface Transportation Assistance Act of 1982, motorcycles and bicycles shall not be considered single occupant vehicles.

(2) Exception for inherently low-emission vehicles. - Notwithstanding paragraph (1), before September 30, 2003, a State may permit a vehicle with fewer than 2 occupants to operate in high occupancy vehicle lanes if the vehicle is certified as an Inherently Low-Emission Vehicle pursuant to title 40, Code of Federal Regulations, and is labeled in accordance with, section 88.312-93(c) of such title. Such permission may be revoked by the State should the State determine it necessary.

(b) Access of Motorcycles. -

No State or political subdivision of a State may enact or enforce a law that applies only to motorcycles and the principal purpose of which is to restrict the access of motorcycles to any highway or portion of a highway for which Federal-aid highway funds have been utilized for planning, design, construction, or maintenance. Nothing in this subsection shall affect the authority of a State or political subdivision of a State to regulate motorcycles for safety.

(c) Engineering Cost Reimbursement. -

If on-site construction of, or acquisition of right-of-way for, a highway project is not commenced within 10 years (or such longer period as the State requests and the Secretary determines to be reasonable) after the date on which Federal funds are first made available, out of the Highway Trust Fund (other than Mass Transit Account), for preliminary engineering of such project, the State shall pay an amount equal to the amount of Federal funds made available for such engineering. The Secretary shall deposit in such Fund all amounts paid to the Secretary under this section.

Attachment to P 89-01, 3/16/89

FEDERAL HIGHWAY ADMINISTRATION CALIFORNIA DIVISION OFFICE PROCEDURE MEMORANDUM	
<u>SUBJECT:</u> Urban Freeway Reconstruction and HOV Projects	D6103
	Dec. 15, 1987

BACKGROUND

As our freeway systems mature, traffic increase has caused a continued reduction in the level of service. Professional transportation planners and engineers have found that there is no practical way to provide sufficient freeways to accommodate demand. In most urbanized areas, no new freeway corridors are proposed or available, except at extremely high cost. The existing freeway system, therefore, must be operated as efficiently as possible considering the collective public. One method of increasing existing freeway people-carrying capacity is to increase vehicle occupancy rate. More people can be moved with less energy and less air pollution while saving overall trip time. HOV lanes on urban freeways increase occupancy rates, and can move the equivalent person-trips of at least 3 conventional traffic lanes in peak hours thus often relieving overall congestion on the freeway.

As freeways are reconstructed, opportunities often exist to cost effectively add HOV lanes and thus substantially add people-carrying capacity to the reconstructed freeways. These opportunities should be fully considered in the planning and project development processes.

POLICY

- o Regional Transportation Planning Agencies (RTPA) should develop in concert with Caltrans and local agencies, route specific region-wide HOV system plans as a part of the regional transportation plan in metropolitan areas. The RTPA shall have the opportunity to comment on projects which deviate from the HOV system plan.
- o An HOV lane shall be an essential alternative for evaluation in the project development process when considering an additional lane by restriping and/or reconstruction or widening on freeways with three or more lanes in one direction.
- o Support by the public is an essential factor for a successful HOV facility. It is therefore desirable that a public relations program be incorporated into the project development process for all HOV facilities. This public relations program is necessary to create public awareness and acceptance of the positive attributes of the HOV option in reducing congestion and air pollution.
- o Freeway lanes, including HOV lanes, which are added by restriping and/or reconstruction or widening, and all other adjacent lanes and shoulders, shall be

Attachment to P 89-01, 3/16/89

constructed to full AASHTO geometric standards except as outlined below under Design Standards.

- o There is a minimum vehicle occupancy criterion of 3 persons per vehicle for HOV facilities. Exceptions to this criterion require FHWA approval.

DESIGN STANDARDS

The AASHTO publication "Guide for the Design of High Occupancy Vehicle and Public Transfer Facilities" gives guidance for design of HOV lanes. In general, lane width should be 12 feet. A 10-foot inside shoulder is desirable. Additional width within the median is encouraged at locations designated for enforcement.

Configurations which use less than full standard lane and shoulder widths require design exceptions. HOV facilities requiring design exceptions are considered staged development and serve as an interim means to relieve existing traffic congestion. When demonstrated effective, plans should be made to provide a standard cross-section to enhance safety and operational characteristics.

When a lane is added, either by restriping and/or reconstruction or widening, to a freeway with 3 or more lanes in one direction, exceptions to the AASHTO geometric standards will be considered in, but not limited to, the following situations:

- o The new lane proposed is an HOV lane.
- o The regional transportation plan includes an HOV system element favorably reviewed by Caltrans and FHWA and the proposed project is consistent with the HOV system element.
- o The regional transportation plan does not yet include a region-wide HOV system; the new lane could be a mixed-flow lane if five years after opening, at the peak commute hour and operating as an HOV lane, the lane would carry fewer person-trips than a mixed-flow lane.



Bruce E. Cannon
Division Administrator